



**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2021-1015; Project Identifier 2019-CE-014-AD; Amendment 39-21942; AD 2022-04-01]**

**RIN 2120-AA64**

**Airworthiness Directives; DG Flugzeugbau GmbH and Schempp-Hirth Flugzeugbau GmbH Gliders**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for DG Flugzeugbau GmbH Model DG-1000T gliders and Schempp-Hirth Flugzeugbau GmbH Model Duo Discus T gliders with a Solo Kleinmotoren GmbH Solo Model 2350C or 2350D engine installed. This AD was prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as failure of the bearing of the upper pulley of the belt driven reduction gear resulting in separation of the propeller from the engine. This AD requires replacing a certain hex-nut and establishing a life limit for the ball bearing assembly. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Solo Kleinmotoren GmbH, Postfach 600152, D71050 Sindelfingen, Germany; phone: +49 703 1301-0; fax: +49 703 1301-136; email: [aircraft@solo-germany.com](mailto:aircraft@solo-germany.com); website: <http://aircraft.solo-online.com>. You may view this service information at the FAA,

Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Jim Rutherford, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; email: [jim.rutherford@faa.gov](mailto:jim.rutherford@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to DG Flugzeugbau GmbH Model DG-1000T gliders and Schempp-Hirth Flugzeugbau GmbH Model Duo Discus T gliders with a Solo Kleinmotoren GmbH Solo Model 2350C or 2350D engine, all serial numbers, installed. The NPRM published in the *Federal Register* on December 1, 2021 (86 FR 68168). The NPRM was prompted by MCAI originated by the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union. EASA issued EASA AD 2019-0029, dated February 8, 2019 (referred to after this as “the MCAI”), to address an unsafe condition on Solo Kleinmotoren GmbH Solo Model 2350B, 2350BS, 2350C, and 2350D engines. The MCAI states:

An occurrence was reported of failure of the bearing of the upper pulley of the belt driven reduction gear, resulting in separation of the propeller from the engine.

This condition, if not corrected, could lead to similar occurrences, with possible reduced control of, and damage to, the aircraft.

To address this potential unsafe condition, Solo redesigned the nut securing the pulley bearing on the axle and introduced a life time limit of 15 years for the reduction gear bearings.

For the reason stated above, this [EASA] AD requires replacement of affected parts with serviceable parts, and introduces a life limit for the affected ball bearings.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015.

### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

### **Related Service Information under 1 CFR Part 51**

The FAA reviewed Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019. The service information specifies procedures for replacing the hex-nut at the excentric axle and the ball bearing assemblies at the bearing block of the reduction gear. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### **Differences Between this AD and the MCAI or Service Information**

The MCAI applies to Solo Kleinmotoren GmbH Solo Model 2350B, 2350BS, 2350C, and 2350D engines. None of these model engines have an FAA engine type certificate. However, Model 2350C and Model 2350D engines are certificated by the FAA with the type certificate for certain gliders. This AD does not apply to Solo Kleinmotoren GmbH Solo Model 2350B and 2350BS engines because they are not part of an FAA glider type design.

The MCAI requires replacing an affected ball bearing assembly before it accumulates 15 years since first installation on an engine. This AD requires replacing both ball bearing assemblies simultaneously before either accumulates 15 years since first installation on an engine.

### **Costs of Compliance**

The FAA estimates that this AD affects 10 gliders of U.S. registry. The FAA estimates that for gliders with an affected hex-nut, replacement would take about 0.5 work-hour and require a part costing \$95. The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost to replace the hex-nut on U.S. operators to be \$1,380 (assuming all 10 gliders have this configuration) or \$138 per glider.

In addition, the FAA estimates that for gliders with the affected ball bearing assemblies, replacement would take about 4 work-hours for both ball bearing assemblies and require ball bearing assemblies costing \$118 (2 units). The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost of the ball bearing assembly replacement on U.S. operators to be \$4,580 (assuming all 10 gliders have this configuration) or \$458 per glider.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2022-04-01 DG Flugzeugbau GmbH and Schempp-Hirth Flugzeugbau GmbH**

**Gliders:** Amendment 39-21942; Docket No. FAA-2021-1015; Project Identifier 2019-CE-014-AD.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to DG Flugzeugbau GmbH Model DG-1000T gliders and Schempp-Hirth Flugzeugbau GmbH Model Duo Discus T gliders, certificated in any category, with a Solo Kleinmotoren GmbH Solo Model 2350C or 2350D engine, all serial numbers, installed.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop).

**(e) Unsafe Condition**

This AD was prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as failure of the bearing of the upper pulley of the belt driven reduction gear. The FAA is issuing this AD to prevent separation of the propeller from the engine. The unsafe condition, if not addressed, could result in loss of control of the glider.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Actions and Compliance**

(1) Within 12 months after the effective date of this AD, remove the nut installed at the excentric axle from service and replace it with a nut in accordance with the Condition section, paragraph a), of Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019.

(2) Before either ball bearing assembly at the bearing block of the reduction gear accumulates 15 years since first installation on an engine or within 12 months after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed

15 years, remove both ball bearing assemblies from service and replace with new (zero hours time-in-service) ball bearing assemblies in accordance with the Condition section, paragraph b), of Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019.

(3) After replacing the ball bearing assemblies required by paragraph (g)(2) of this AD, record compliance in the aircraft log book. The entry must include: (1) reduction gear part number (P/N) and serial number; and (2) date ball bearing assemblies were replaced.

(4) As of the effective date of this AD, do not install a hex-nut P/N 0028143 on any engine.

(5) As of the effective date of this AD, do not install ball bearing assembly P/N 0050110 on any engine unless it is new (zero hours time-in-service).

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD and email to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Jim Rutherford, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 901 Locust, Room 301, Kansas City, MO 64106; phone: (816) 329-4165; email: jim.rutherford@faa.gov.

(2) Refer to European Aviation Safety Agency (EASA) AD 2019-0029, dated February 8, 2019, for more information. You may examine the EASA AD in the AD

docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1015.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Solo Kleinmotoren GmbH Service Bulletin 4603-18, dated January 22, 2019.

Note 1 to paragraph (j)(2)(i): This service information contains German to English translation. EASA used the English translation in referencing the document from Solo Kleinmotoren GmbH. For enforceability purposes, the FAA will cite the service information in English as it appears on the document.

(ii) [Reserved]

(3) For service information identified in this AD, contact Solo Kleinmotoren GmbH, Postfach 600152, D71050 Sindelfingen, Germany; phone: +49 703 1301-0; fax: +49 703 1301-136; email: [aircraft@solo-germany.com](mailto:aircraft@solo-germany.com); website: <http://aircraft.solo-online.com>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on February 1, 2022.

Lance T. Gant, Director,



Compliance & Airworthiness Division,  
Aircraft Certification Service.

[FR Doc. 2022-03591 Filed: 2/18/2022 8:45 am; Publication Date: 2/22/2022]